

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 47, 49, 51-63, 107, 111-118 are pending in the application, with claim 47 being the independent claim. Claims 47, 51, 54-57, 60 and 117-118 have been amended. Support for the claim amendments can be found in the original claims and throughout the specification. No new matter is added to the present application by the foregoing amendments, which are fully supported by the specification as originally filed, and their entry is respectfully requested.

Based on the above amendments and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Objection to the Specification

In the Office Action at pages 2-3, the Examiner has maintained the objection to the specification. Specifically, with regard to the statement in the present specification incorporating by reference all publications, patents and patent applications mentioned in the specification, the Examiner states: "[s]uch omnibus language fails to specify what specific information applicant seeks to incorporate by reference and similarly fails to teach with detailed particularity just where that specific information is to be found in each of the cited documents." Office Action at page 2, lines 8-10. The Examiner therefore concludes "[a]ccordingly, the cited documents are not considered to have been properly incorporated by reference and as such, have not been considered with any effect towards their fulfilling, either in part or in whole, the enablement, written description, or

best mode requirements of 35 U.S.C. § 112, first paragraph." Office Action at page 3, lines 10-13. Applicants respectfully disagree with the Examiner's statements and conclusions. Applicants incorporate by reference herein the remarks made in the previous Reply filed March 17, 2005. Applicants also submit the following additional remarks.

M.P.E.P. § 608.01(p)(I)(A) provides:

Mere reference to another application, patent or publication is not an incorporation of anything therein into the application containing such reference for the purpose of disclosure required by 35 U.S.C. § 112, first paragraph. In addition to other requirements for an application, the referencing application should include an identification of the referenced patent, application, or publication. Particular attention should be directed to specific portions of the referenced document where the subject matter being incorporated may be found.

M.P.E.P. § 608.01(p)(I)(A), fourth paragraph, lines 1-12 (citations omitted). Applicants respectfully submit that all of the requirements set forth in M.P.E.P. § 608.01(p)(I)(A), with regard to incorporating documents by reference, have been met by the present specification.

Throughout the present specification, each separate patent, application or publication is specifically identified, e.g., via patent number, patent publication number, or publication reference including author, title and/or journal citation. By virtue of the final paragraph of the specification, each individual patent, application and publication is incorporated by reference as if each were individually indicated to be incorporated by reference. M.P.E.P. § 608.01(p)(I)(A) does not require an separate statement of incorporation for each individual reference that is to be incorporated. All that is required

is the identification of the referenced source. Applicants respectfully submit that the present specification clearly meets this requirement.

With regard to the suggestion that specific portions of the referenced document(s) should be identified in each individual case, Applicants respectfully submit that the ordinarily skilled artisan would readily recognize the relevant portion(s) of each individual reference from the context in which that reference is cited and described in the present specification, which is all that is required.

For example, the Examiner is directed to the present specification at page 20, line 25 to page 21, line 6:

Enzymes for use in the compositions, methods and kits of the invention include any enzyme having reverse transcriptase activity. Such enzymes include, but are not limited to, retroviral reverse transcriptase, retrotransposon reverse transcriptase, hepatitis B reverse transcriptase, cauliflower mosaic virus reverse transcriptase, bacterial reverse transcriptase, *Tth* DNA polymerase, *Taq* DNA polymerase (Saiki, R.K. *et al.*, *Science* 239:487-491 (1988); U.S. Patent Nos. 4,889,818 and 4,965,188), *Tne* DNA polymerase (WO 96/10640), *Tma* DNA polymerase (U.S. Patent No. 5,374,553) and mutants, variants or derivatives thereof (see. e.g., co-pending U.S. Patent Application Nos. 08/706,702 and 08/706,706, both filed September 9, 1996, which are incorporated by reference herein in their entireties).

Specification at page 20, line 25 to page 21, line 6. Applicants respectfully submit that the ordinarily skilled artisan would readily recognize that the relevant portions of each of these documents are those sections that describe the specified enzymes, for example, *Tma* DNA polymerase in U.S. Patent No. 5,374,553. Therefore, the relevant portion of each document that has been incorporated by reference has clearly been identified, and the ordinarily skilled artisan reading the present specification, and the incorporated document(s), would readily understand what specific information has been incorporated.

Hence, Applicants respectfully submit that all of the requisite elements cited in M.P.E.P. § 608.01(p)(I)(A) have been met, and therefore all of the documents cited in the present application have been incorporated by reference to their full extent for all purposes. Therefore, Applicants respectfully submit that the documents incorporated by reference into the present specification can be used to fulfill the enablement, written description, and best mode requirements of 35 U.S.C. § 112, first paragraph.

In view of the foregoing remarks, Applicants request reconsideration and withdrawal of the objection to the specification.

Objection to the Claims

In the Office Action at pages 3-4, section 5, the Examiner has objected to claims 54-56 and 117 under 37 CFR 1.75(c), as allegedly being in improper dependent form for failing to further limit the subject matter of a previous claim. Specifically, the Examiner alleges that because claims 54-56 and 117 do not recite any lower limit to the temperature range, they effectively broaden the lower limit of the range recited in claim 47, the claim from which claims 54-56 and 117 depend. Solely in an effort to expedite prosecution, and without acquiescing with the propriety of the objection, Applicants have amended claims 54-56 and 117 to correspond to the lower limit of the range recited in claim 47. Thus, the objection of claims 54-56 and 117 is now moot. Reconsideration and withdrawal of the objection to claims 54-56 and 117 are therefore respectfully requested.

Rejections under 35 U.S.C. § 112, First Paragraph (Written Description)

In the Office Action at pages 4-6, sections 6-10, the Examiner has rejected claims 47, 49, 51-63, 107, and 111-117 under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description requirement. Specifically, the Examiner states that "claim 47 has been amended so to recite that one is 'incubating said template, polynucleotide and inhibitor at a temperature between 10°C and 90°C'" and that the Applicants directed attention to page 5, lines 24-26, as providing support for this range. The Examiner contends that the temperature range provided by this passage is to be used for annealing or hybridizing primers to templates and that claim 47 does not recite the presence of any primers. Solely in an effort to expedite prosecution, and without acquiescing with the propriety of the rejection, Applicants have amended 47 to recite a "primer." Support for this amendment can be found throughout the specification as filed and specifically at page 5, lines 24-26 of the specification. Thus, the rejection of claim 47, and claims 49, 51-63, 107, and 111-117 which depend therefrom, under 35 U.S.C. § 112, first paragraph is now moot. Reconsideration and withdrawal of the rejection of claims 47, 49, 51-63, 107, and 111-117 54-56 and 117 under 35 U.S.C. § 112, first paragraph are therefore respectfully requested

Rejections under 35 U.S.C. § 112, First Paragraph (New Matter)

In the Office Action at page 6, sections 11 and 12, the Examiner has rejected claims 47 and 53 under 35 U.S.C. § 112, first paragraph as allegedly containing new matter. Specifically, the Examiner alleges that the "antibody or antibody fragment inhibitor" recited in claims 47 and 53 is to be construed such that the inhibitor "must

possess all [o]f the properties recited in claims 47 and 53." As such, the Examiner alleges that the specification does not support the newly added language such that antibodies or antibody fragments have all of these properties. Applicants respectfully traverse this rejection.

Applicants direct the Examiner's attention to the originally filed specification at page 7, lines 8-13, which states:

Such a result is accomplished in accordance with the invention by the use of inhibitors (such as antibodies or antibody fragments) which inhibit reverse transcriptase activity. Such reverse transcriptase inhibitors *prevent or inhibit reverse transcriptase activity* at low temperatures *such that internal priming is prevented, inhibited, reduced or substantially reduced.* (Emphasis Added).

As this passage clearly indicates, and contrary to the Examiner's allegation, the originally filed specification contains *explicit* support for "an antibody or antibody fragment inhibitor of [a] polypeptide having reverse transcriptase activity" wherein the "inhibitor inhibits, prevents, or reduces internal priming," as recited by claims 47 and 53. Thus, Applicants respectfully disagree with the position taken by the Examiner and assert that the originally filed specification provides express support for both antibody or antibody fragment inhibitors which inhibit, prevent, or reduce internal priming and the use thereof. Hence, the originally filed specification clearly provides support for claims 47 and 53 as amended in the Reply dated March 17, 2005. As such, claims 47 and 53 comply with 35 U.S.C. § 112, first paragraph, because they recite only matter that is fully described in the application as originally filed.

In view of the foregoing remarks, reconsideration and withdrawal of the rejection of claims 47 and 53 under 35 U.S.C. § 112, first paragraph are respectfully requested.

Rejections under 35 U.S.C. § 112, First Paragraph (Written Description)

In the Office Action at page 7, sections 13 and 14, the Examiner has rejected claim 51 under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description requirement. Specifically, the Examiner alleges that "the specification has not been found to provide an adequate written description of just what the various structures are for the recited reverse transcriptases, much less which amino acids, and number of amino acids that may be substituted, deleted, and/or introduced into the various polypeptides. . . ." Solely in an effort to expedite prosecution, and without acquiescing with the propriety of the rejection, Applicants have amended claim 51 to remove the term "or mutants." Thus, the rejection of claim 51 under 35 U.S.C. § 112, first paragraph is now moot.

In view of the foregoing remarks, reconsideration and withdrawal of the rejection of claim 51 under 35 U.S.C. § 112, first paragraph are respectfully requested.

Rejections under 35 U.S.C. § 112, First Paragraph (New Matter)

In the Office Action at page 7, section 15, the Examiner has rejected claims 57-59 under 35 U.S.C. § 112, first paragraph as allegedly containing new matter. Specifically, the Examiner alleges that the disclosure fails to support the ranges recited in claims 57-59. Solely in an effort to expedite prosecution, and without acquiescing with the propriety of the rejection, Applicants have amended claim 57 to recite "the primer to template ratio is between 12:1 and 1:12." As such, claims 57-59 currently recite primer to template ratios of 12:1 to 1:12, 10:1 to 1:10, and 5:1 to 1:5, respectfully. The

Examiner's attention is directed to the originally filed specification at page 4, lines 28-30 for *ipsis verbis* support for claims 57-59 wherein the specification states "[P]referred molar ratios of primer to template range from about 12:1; 10:1; 9:1; 8:1; 7:1; 6:1; 5:1; 4:1; 3:1; 2:1; 1:1; 1:2; 1:3; 1:4; 1:5; 1:6; 1:7; 1:8; 1:9; 1:10 and 1:12." Hence, the originally filed specification clearly provides support for claims 57-59. Thus, claims 57-59 fully comply with 35 U.S.C. § 112, first paragraph.

In view of the foregoing remarks, reconsideration and withdrawal of the rejection of claims 57-59 under 35 U.S.C. § 112, first paragraph are respectfully requested.

Rejections under 35 U.S.C. § 112, Second Paragraph

In the Office Action at page 7-8, sections 16-18, the Examiner has rejected claims 47, 49, 51-63, 107, and 111-118 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner states that "claim 47 recites the temperature range of 10°C to 90°C, and also contains the statement that one is to '[elevate] said temperature to inactivate said inhibitor, whereby said one or more cDNA molecules are synthesized.'" Based upon this statement, the Examiner alleges that it is unclear if the term "elevated" temperature falls within the range of 10°C to 90°C or above it. Solely in an effort to expedite prosecution, and without acquiescing with the propriety of the rejection, Applicants have amended claim 47 to recite "elevating the temperature of said template, primer, polypeptide and inhibitor to a temperature between 10°C and 90°C." Applicants assert that claim 47, as amended, clearly indicates that the "elevated temperature" falls within the cited range of between 10°C and 90°C. Thus, the

rejection of claims 47, 49, 51-63, 107, and 111-118 under 35 U.S.C. § 112, second paragraph is now moot.

In view of the foregoing remarks, reconsideration and withdrawal of the rejection of claims 47, 49, 51-63, 107, and 111-118 under 35 U.S.C. § 112, second paragraph are respectfully requested.

In the Office Action on page 8, section 19, the Examiner has rejected claims 51, 112, 113, and 114 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for containing abbreviations for which the full name is not given. Solely in an effort to expedite prosecution, and without acquiescing with the propriety of the rejection, Applicants have amended claim 51 to recite the full name followed by the abbreviation in parentheses. Support for this amendment can be found in the specification as filed at page 22, lines 24-27. Thus, the rejection of claims 51, 112, 113, and 114 under 35 U.S.C. § 112, second paragraph is now moot.

In view of the foregoing remarks, reconsideration and withdrawal of the rejection of claims 51, 112, 113, and 114 under 35 U.S.C. § 112, second paragraph are respectfully requested.

In the Office Action on page 8, section 20, the Examiner has rejected claim 52 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite with respect to what is the comparison being conducted and whether the reduction is statistically significant. Applicants respectfully traverse this rejection.

Applicants direct the Examiner's attention to page 21, line 26 through page 22, line 1 of the specification as filed, which states in relevant portion "[B]y an enzyme 'substantially reduced in RNase H activity' is meant that the enzyme has less than about 30%, . . . , or less than 2%, of the RNase H activity of the corresponding wildtype or RNase H⁺ enzyme. . . ." Based upon this disclosure, Applicant asserts that it is clear that the comparison being conducted to determine a reduction in RNase H activity is a comparison between the RNase H activity of the reverse transcriptase of interest and the RNase H activity of the corresponding wildtype or RNase H⁺ counterpart of the reverse transcriptase of interest. Thus, contrary to the position taken by the Examiner, claim 52 is not indefinite with regard to what comparison is being conducted to determine a reduction in RNase H activity. In addition, Applicants point out that the limitation of "statistically significant" is nowhere to be found in pending claim 52. Thus, claim 52 fully complies with 35 U.S.C. § 112, second paragraph.

In view of the foregoing remarks, reconsideration and withdrawal of the rejection of claim 52 under 35 U.S.C. § 112, second paragraph are respectfully requested.

Other Matters

Applicants would like to point out to the Examiner that page 1 of the Office Action Summary incorrectly states that claims 2-5, 27-29 and 32-37 are pending in the application. As stated *supra*, claims 47, 49, 51-63, 107, 111-118 are pending in the application. Applicants request that the Examiner acknowledge this error.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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